

ASSESSMENT OF AGE-RELATED DECLINE OF STIMULUS-RESPONSIVENESS IN DOGS

P. Piotti^{1*}, Zs. Bogнар^{1*}, D. Szabo¹, L. Le Nézet^{1,2}, E. Kubinyi¹.

**These authors contributed equally to this work, ¹Senior Family Dog Project, Department of Ethology, Eötvös University, Budapest, ²UFR Sciences of Life and Environment, Université de Rennes, France.*

Diagnosis of Canine Cognitive Dysfunction (CCD) requires differentiation from neurological pathology, including reduced responsiveness to stimuli due to age-related sensory function decline (e.g. vision, hearing). Veterinary neurological examination does not quantify the degree of sensory decline but rather diagnoses complete loss of function; therefore mild sensory decline might be undetected at early stages.

A within-subject study was designed to pilot a battery of standardised tests (“Sensory Tests”) to assess the variability in response to auditory and visual stimuli, and relationship with age, in a cohort of 21 privately owned dogs aged 8+ years. Prior to testing, all dogs underwent standard physical and neurological exams by a qualified veterinary surgeon and were otherwise healthy.

Vision Test scores (i.e. from the Sensory Tests) did not correlate with age, had a strong positive correlation with the outcome of the Veterinary exam, and were significantly lower with a stimulus placed at 2m compared to 0m. Auditory Test scores had a moderate negative correlation with age but not with the Veterinary exam; however, older dogs were less responsive to the “clap” test. None of Veterinary exams correlated with age.

The results highlight dogs’ reduced sensory abilities under certain conditions, which should be measured before cognitive assessment. The Vision Sensory Test and Veterinary exam detected dogs’ response to visual stimuli similarly, while the discrepancies between the Auditory assessments require further investigation. Future research should focus on sensory function alterations specific to age-related pathology (e.g. cataract, high-tone hearing loss) and validate such tests with electrophysiological measures.